

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented): A method of preparing a birefringent marking comprising:
 - printing a polymerisable liquid crystal material directly onto at least one surface of a reflective substrate; and
 - polymerising the liquid crystal material,
 - whereby a birefringent marking is formed on said reflective substrate,
 - wherein said polymerizable liquid crystal material is printed onto the reflective substrate ~~substrate~~ by screen printing, offset printing, dry offset printing, reel-to-reel printing, letter press printing, gravure printing, rotogravure printing, flexographic printing, intaglio printing, pad printing, heat-seal printing, ink-jet printing, or printing by means of a stamp or printing plate, and
 - printing of said polymerizable liquid crystal material onto the reflective substrate ~~substrate~~ induces or enhances spontaneous alignment of the polymerizable liquid crystal material on said reflective substrate.
2. (Previously Presented): A method according to claim 1, wherein the liquid crystal material is a nematic or smectic liquid crystal material.
3. (Previously Presented): A method according to claim 1, wherein the substrate comprises at least one metallic or metallised layer.
4. (Previously Presented): A method according to claim 3, wherein the metal is selected from aluminium, gold and copper.
5. (Previously Presented): A method according to claim 1, wherein the substrate comprises at least one layer of reflective pigments.

6. (Previously Presented): A method according to claim 5, wherein the reflective pigments are selected from interference or pearlescent pigments and liquid crystal pigments.

7. (Previously Presented): A method according to claim 1, wherein the liquid crystal material comprises at least one compound which induces and/or enhances planar alignment.

8. (Previously Presented): A method according to claim 7, wherein the compound inducing and/or enhancing a planar alignment is a surfactant.

9. (Previously Presented): A method according to Claim 1, wherein the polymerised liquid crystal material has a splayed structure.

10. (Previously Presented): A method according to claim 1, wherein the polymerised liquid crystal material has a planar structure.

11. (Previously Presented): A birefringent marking obtainable by a method according to Claim 1.

12. (Previously Presented): In a method of applying a decorative, security, authentication or identification marking to an item, the improvement wherein said marking is a birefringent marking prepared according to claim 1.

13. (Previously Presented): A security authentication or identification marking, thread or device comprising at least one birefringent marking prepared according to claim 10.

14. (Previously Presented): In a document of value, a hot stamping foil, a reflective foil, or an optical data storage device, the improvement wherein said document of value, hot stamping foil, reflective foil, or optical data storage device has at least one birefringent marking according to claim 11.

15. (Previously Presented): A document of value, a hot stamping foil, a reflective foil, or an optical data storage device comprising at least one security, authentication or identification marking, thread or device according to claim 13.

16. (Currently Amended): A method of preparing a birefringent marking comprising: polymerizing a polymerizable liquid crystal material that has been directly printed onto at least one surface of a reflective substrate, wherein said printing of the polymerizable liquid crystal material onto the reflective substrate induces or enhances spontaneous alignment of the polymerizable liquid crystal material on said reflective substrate.

17. (Previously Presented): A method according to claim 2, wherein the polymerised liquid crystal material has a planar structure.

18. (Previously Presented): A security, authentication, or identification marking, thread or device comprising at least one birefringent marking prepared according to claim 17.

19. (Previously Presented): A method according to claim 1, wherein said birefringent marking is prepared separately on said at least one surface of said reflective substrate; and then said marking and reflective substrate are applied to a document of value.

20. (Previously Presented): A method according to claim 2, wherein said birefringent marking is prepared separately on said at least one surface of said reflective substrate; and then said marking and reflective substrate are applied to a document of value.

21. (Previously Presented): A method according to claim 1, wherein said polymerizable liquid crystal material comprises a liquid crystal material and a solvent.

22. (Cancelled):

23. (Cancelled):

24. (Previously Presented): A method according to claim 1, wherein said polymerizable liquid crystal material further comprises a polymeric binder or one or more monomers capable of forming a polymeric binder.

25. (Previously Presented): A method according to claim 1, wherein said polymerizable liquid crystal material does not containing a binder.

26. (Previously Presented): A method according to claim 8, wherein said surfactant is a fluorocarbon surfactant.

27. (Previously Presented): A method according to claim 28, wherein said fluorocarbons surfactant is of formula I:



wherein

n is an integer from 4 to 12, and

x is an integer from 5 to 15.

28. (Previously Presented): A method according to claim 7, wherein the amount of said compound in said polymerizable liquid crystal material 0.01 -5 weight %.

29. (Previously Presented): A method according to claim 1, wherein said birefringent marking has a birefringence in the range from 0.1 to 0.3 and a thickness from 0.5 to 20 μm .

30. (Previously Presented): A method according to claim 1, wherein said birefringent marking further comprises one or more further layers applied onto said birefringent marking.

31. (Previously Presented): A method according to claim 30, wherein said one or more further layers are selected from a protecting layer, a support layer, an adhesive layer, a reflecting layer, an optical retardation layer, a color filter, a polarizer, or combinations thereof.

32. (Previously Presented): A method according to claim 2, wherein said polymerizable liquid crystal material further comprises a surfactant, said polymerizable liquid crystal material is printed onto discrete regions of said reflective substrate, and said reflective substrate is a metallized or metal substrate.

33. (Previously Presented): A method according to claim 32, wherein said liquid crystal material is a nematic liquid crystal material.

34. (Previously Presented): A method according to claim 2, wherein said polymerizable liquid crystal material further comprises a surfactant, said polymerizable liquid crystal material is printed onto discrete regions of a paper substrate that is covered by a layer of interference pigments dispersed in a transparent binder.

35. (Previously Presented): A method according to claim 34, wherein said liquid crystal material is a nematic liquid crystal material.

36. (Previously Presented): A method according to claim 1, wherein said birefringent marking is invisible under unpolarized light and is visible when viewed through a polariser.